Index of Authors and Papers

Abraham, C., U. Benedict and J.C. Spirlet, Optical reflectivity of neptunium and plutonium monochalcogenides under high pressure 222 (1996) 52
Al-Qenaie, A.Y.M., see W.I. Khan 222 (1996) 167
Albuquerque, E.L., see M.S. Vasconcelos 222 (1996) 113
Amara, M. and P. Morin, Description of the magnetic phase diagrams in NdZn 222 (1996) 61
Andersson, M., see L. Fàbrega 222 (1996) 379
Aronzon, B. and F. Guillon, Magnetic field dependence of threshold for chaotic acoustoelectric oscillations in n-InSb at 77 K 222 (1996) 103

Bae, K.S., see S.N. Yi 222 (1996) 209
Balibanu, F., see C. Filip 222 (1996) 16
Barbiellini, B., see L. Hoffmann 222 (1996) 31
Bardinal, V., see J.L. Iehl 222 (1996) 73
Beck, H., see M. Capezzali 222 (1996) 304
Benedict, U., see C. Abraham 222 (1996) 52
Bezryadin, A., , see B. Pannetier 222 (1996) 253
Bishop, A.R., see N. Grønbech-Jensen 222 (1996) 396
Buhleier, R., see J.L. Iehl 222 (1996) 73

Capezzali, M., M. Mombelli and H. Beck, Dynamics of vortices in disordered Josephson junctions arrays 222 (1996) 304
Cardenas, M. and M.P. Tosi, Structure of partly quenched square-well fluids 222 (1996) 143
Chaikin, P.M., see M.A. Itzler 222 (1996) 260
Chaplot, S.L., see R. Mittal 222 (1996) 233
Chattopadhyay, D., see S.K. Sarkar 222 (1996) 217
Choi, M.Y., Vortex state and quantization in superconducting arrays 222 (1996) 358
Choi, S.D., see S.N. Yi 222 (1996) 209
Collet, J.H., see J.L. Iehl 222 (1996) 73
Comay, E., Maxwell equations versus the longitudinal magnetic field of the photon 222 (1996) 150

Darabont, A., see C. Filip 222 (1996) 16
Davies, T.J., see A.A. Ogwu 222 (1996) 131
Decroux, M., see L. Fàbrega 222 (1996) 379
Domínguez, D., see N. Grønbech-Jensen 222 (1996) 396
Domínguez, D., Vortex dynamics in disordered Josephson junction arrays: From plastic flow to flux flow 222 (1996) 293

Eichenberger, A., see B. Pannetier 222 (1996) 253
El Allam, D., see A. Rachadi 222 (1996) 160
El-Shabasy, M. and A.S. Riad, Dielectric behaviour of polycarbonate 222 (1996) 153

Fàbrega, L., J.-M. Triscone, P. Fivat, H. Obara, M. Andersson, M. Decroux and Ø. Fischer, Vortex dynamics and vortex phase diagram in artificial oxide superlattices 222 (1996) 379
Fazio, R., see K.H. Wagenblast 222 (1996) 336
Fazio, R., K.H. Wagenblast, C. Winkelholz and G. Schön, Tunneling into one-dimensional Josephson chains and Luttinger liquids 222 (1996) 364
Filip, C., C. Kessler, F. Balibanu, P. Kleeman, A. Darabont, L.V. Giurgiu and M. Mehring, Magnetic interactions between Gd ions in $Gd_xY_{1-x}Ba_2Cu_3O_{7-\delta}$: An ESR investigation 222 (1996) 16
Fischer, Ø., see L. Fàbrega 222 (1996) 379
Fivat, P., see L. Fàbrega 222 (1996) 379
Fontaine, C., see J.L. Iehl 222 (1996) 73
Franz, M. and S. Teitel, Vortex lattice melting in 2D superconducting networks 222 (1996) 287

Garnier, A., D. Gignoux, D. Schmitt and T. Shigeoka, Giant magnetic anisotropy in tetragonal $GdRu_2Ge_2$ and $GdRu_2Si_2$ 222 (1996) 80
Gignoux, D., see A. Garnier 222 (1996) 80
Giurgiu, L.V. see C. Filip 222 (1996) 16
Glinchuk, M.D., L. Jastrabik and V.A. Stephanovich, The sequence of structural phase transitions in $KTa_{1-x}Nb_xO_3$ 222 (1996) 182
Gong, X.G., see Q. Sun 222 (1996) 247
Gould, R.D., see S.I. Shihub 222 (1996) 136
Grac, R., see J.L. Iehl 222 (1996) 73
Granato, E., J.M. Kosterlitz and M.P. Nightingale, Critical behavior of Josephson-junction arrays at $f = \frac{1}{2}$ 222 (1996) 266
Gravano, S., see S.I. Shihub 222 (1996) 136
Grønbech-Jensen, N., D. Domínguez and A.R. Bishop, Simulations of current driven three-dimensional Josephson junction arrays 222 (1996) 396
Guillon, F., see B. Aronzon 222 (1996) 103

Hagenaars, T.J., see J.E. van Himbergen 222 (1996) 299
Hamedoun, M., see A. Rachadi 222 (1996) 160
Häusler, W., Influence of spin on the persistent current of strongly interacting electrons 222 (1996) 43
Hayashi, M., see S.H. Lin 222 (1996) 191
Hoffmann, L., B. Barbiellini, A.A. Manuel, M. Peter, A.Yu. Rumiantsev and A.S. Ivanov, Fermi surface of γ-tin studied by positron 2D-ACAR 222 (1996) 31
Horovitz, B., Quantum Hall effect in two-dimensional vortex liquids 222 (1996) 370

Husain, A. and A.K. Jonscher, Dynamic transport on humid silica surface II 222 (1996) 123
Hwang, I.-J. , see D. Stroud 222 (1996) 331
Hwang, S., see Y. Kuwasawa 222 (1996) 92

Iehl, J.L., R. Grac, J.H. Collet, M. Pugnet, R. Buhleier, V. Bardinal, C. Fontaine and R. Legros, Subnanosecond density dynamics of the electron–hole plasma in GaAs/AlAs microcavities 222 (1996) 73
Islampour, R., see S.H. Lin 222 (1996) 191
Itzler, M.A. and P.M. Chaikin, Disorder, anisotropy, and the loss of coherence in superconducting wire networks 222 (1996) 260
Ivanov, A.S., see L. Hoffmann 222 (1996) 31

Jastrabik, L., see M.D. Glinchuk 222 (1996) 182
Jonscher, A.K., see A. Husain 222 (1996) 123
José, J.V., see J.E. van Himbergen 222 (1996) 299
José, J.V., T.K. Kopeć and C. Rojas, Quantum phase diagrams in periodic and glassy arrays of ultra-small Josephson junctions 222 (1996) 353

Kagaya, H.-M., E. Serita, M. Sato and T. Soma, Lattice specific of Al–Cu alloy by solid-solutioning under pressure 222 (1996) 87
Kalpana, G., B. Palanivel, R.M. Thomas and M. Rajagopalan, Electronic and structural properties of MgS and MgSe 222 (1996) 223
Kessler, C., see C. Filip 222 (1996) 16
Khan, W.I., A.E. Rakhshani and A.Y.M. Al-Qenaie, Planar anisotropy in amorphous semiconductors 222 (1996) 167
Kleeman, P., see C. Filip 222 (1996) 16
Kolarschik, M. and G. Voll, Rotational tunnelling of a C_3-symmetric rotor with non-fixed axis in a C_4-symmetric cage 222 (1996) 1
Kopeć, T.K., see J.V. José 222 (1996) 353
Korshunov, S.E. and T. Nattermann, Phase diagram of a Josephson junction array with positional disorder 222 (1996) 280
Kosterlitz, J.M., see E. Granato 222 (1996) 266
Kulagin, N., d–s Interaction for Me-ions of clusters in superconductors 222 (1996) 173
Kumar, M., Temperature dependence of bulk modulus and equation of state for minerals 222 (1996) 229
Kuwasawa, Y., T. Nojima, S. Hwang, B.J. Yuan and J.P. Whitehead, Preferential position for nucleation of order parameter and angular dependence of upper critical fields in Nb/NbZr multilayers 222 (1996) 92

Leath, P.L., Current-driven effects in disordered arrays of Josephson junctions 222 (1996) 320
Legros, R., see J.L. Iehl 222 (1996) 73
Li, Z.-M. and W.-L. Shuen, Investigation of the trigonal-field splittings D and dependences on the local structural distortions for $ZnSiF_6 \cdot 6H_2O$: $Mn^{2+}(Ni^{2+})$ 222 (1996) 238
Lin, S.H., M. Hayashi, R. Islampour, J. Yu, D.Y. Yang and G.Y.C. Wu, Molecular theory of second-order sum-frequency generation 222 (1996) 191

Majhofer, A., Flux pinning, inductance effects and critical state behaviour in Josephson junction arrays 222 (1996) 273
Malyshev, C., Erratum to "A new representation for the supercurrent in ^{3}He-A and its zero temperature limit" [Physica B 210 Nos. 3&4 (1995) 359–365] 222 (1996) 252
Manuel, A.A., see L. Hoffmann 222 (1996) 31
Mehring, M., see C. Filip 222 (1996) 16
Mehrotra, R. Chaos and dynamics of vortices in Josephson junction arrays 222 (1996) 326
Minnhagen, P., Anomalous vortex dynamics and current–voltage characteristics in 2D JJA 222 (1996) 309
Mittal, R., S.L. Chaplot, K.R. Rao and P. Raj, Phonon density of states in Zr_2Ni 222 (1996) 233
Mombelli, M., see M. Capezzali 222 (1996) 304
Morin, P., see M. Amara 222 (1996) 61
Müller, P., Layered superconductors as one-dimensional Josephson arrays 222 (1996) 385

Nattermann, T., see S.E. Korshunov 222 (1996) 280
Nightingale, M.P., see E. Granato 222 (1996) 266
Nojima, T., see Y. Kuwasawa 222 (1996) 92

Obara, H., see L. Fàbrega 222 (1996) 379
Ogwu, A.A. and T.J. Davies, Band structure based predictive criteria for selecting densifying additives during sintering of transition metal based hardmetals and iono-covalent ceramics 222 (1996) 131
Onogi, T., 3D simulation of Josephson junction arrays as high-T_c superconductors: Dimensional crossover and nonlinear conductivity 222 (1996) 391

Palanivel, B., see G. Kalpana 222 (1996) 223
Pannetier, B., A. Bezryadin and A. Eichenberger, Imaging of vortices in 2D superconducting arrays: Magnetic decoration and other methods 222 (1996) 253
Peter, M., see L. Hoffmann 222 (1996) 31
Pugnet, M., see J.L. Iehl 222 (1996) 73

Rachadi, A., M. Hamedoun and D. El Allam, High-temperature expansion of the correlation function and short-range ordering in a spinel lattice 222 (1996) 160
Raj, P., see R. Mittal 222 (1996) 233
Rajagopalan, M., see G. Kalpana 222 (1996) 223
Rakhshani, A.E., see W.I. Khan 222 (1996) 167

Rao, K.R., see R. Mittal 222 (1996) 233
Riad, A.S., see El-Shabasy, M. 222 (1996) 153
Rojas, C., see J.V. José 222 (1996) 353
Rumiantsev, A.Yu., see L. Hoffmann 222 (1996) 31
Ryu, S., see D. Stroud 222 (1996) 331

Sarkar, S.K. and D. Chattopadhyay, Calculation of one-dimensional hot-electron mobility in GaAs quantum wires at microwave and millimeterwave frequencies 222 (1996) 217
Sato, M., see H.-M. Kagaya 222 (1996) 87
Schmitt, D., see A. Garnier 222 (1996) 80
Schneider, T., 3D-xy critical point behavior in high-T_c superconductors 222 (1996) 374
Schön, G., see K.H. Wagenblast 222 (1996) 336
Schön, G., see R. Fazio 222 (1996) 364
Serita, E., see H.-M. Kagaya 222 (1996) 87
Shigeoka, T., see A. Garnier 222 (1996) 80
Shihub, S.I., R.D. Gould and S. Gravano, The effects of annealing on the AC electrical properties of cobalt phthalocyanine thin films 222 (1996) 136
Shuen, W.-L., see Z.-M. Li 222 (1996) 238
Soma, T., see H.-M. Kagaya 222 (1996) 87
Song, J.J., see S.N. Yi 222 (1996) 209
Spirlet, J.C., see C. Abraham 222 (1996) 52
Stephanovich, V.A., see M.D. Glinchuk 222 (1996) 182
Stroud, D., I.-J. Hwang and S. Ryu, Simulations of Shapiro steps in Josephson junction arrays 222 (1996) 331
Sun, Q., X.G. Gong, Q.Q. Zheng and G.H. Wang, The magnetic properties of Fe_3 TMB clusters 222 (1996) 247

Teitel, S., see M. Franz 222 (1996) 287
Thomas, R.M., see G. Kalpana 222 (1996) 223
Tiesinga, P.H.E., see J.E. van Himbergen 222 (1996) 299
Tosi, M.P., see M. Cardenas 222 (1996) 143
Triscone, J.-M., see L. Fàbrega 222 (1996) 379

van Himbergen, J.E., T.J. Hagenaars, J.V. José and P.H.E. Tiesinga, Single and collective vortex dynamics in classical Josephson-junction arrays 222 (1996) 299
van Otterlo, A., see K.H. Wagenblast 222 (1996) 336
van der Zant, H.S.J., Quantum, ballistic vortices 222 (1996) 344
Vasconcelos, M.S. and E.L. Albuquerque, Plasmon polaritons and optical spectra of a superlattice of cantor type 222 (1996) 113
Voll, G., see M. Kolarschik 222 (1996) 1

Wagenblast, K.H., see R. Fazio 222 (1996) 364
Wagenblast, K.-H., R. Fazio, A. van Otterlo, G. Schön, D. Zappalá and G.T. Zimanyi, Response of Josephson-junction arrays and granular superconductors near the superconductor–insulator transition 222 (1996) 336
Wang, G.H., see Q. Sun 222 (1996) 247
Whitehead, J.P., see Y. Kuwasawa 222 (1996) 92
Wiesenfeld, K., New results on frequency-locking dynamics of disordered Josephson arrays 222 (1996) 315
Winkelholz, C., see R. Fazio 222 (1996) 364
Wu, G.Y.C., see S.H. Lin 222 (1996) 191

Yang, D.Y., see S.H. Lin 222 (1996) 191
Yi, S.N., J.J. Song, K.S. Bae and S.D. Choi, A theory of cyclotron resonance line widths based on continued fraction representation 222 (1996) 209
Yu, J., see S.H. Lin 222 (1996) 191
Yuan, B.J., see Y. Kuwasawa 222 (1996) 92

Zappalá, D., see K.H. Wagenblast 222 (1996) 336
Zheng, Q.Q., see Q. Sun 222 (1996) 247
Zheng, W.-C., Local compressibility around the impurity in nickel-doped CaO crystal 222 (1996) 243
Zimanyi, G.T., see K.H. Wagenblast 222 (1996) 336

Subject Index

AC conductivity 136
AC susceptibility 260, 273
Acoustoelectric oscillations 103
Actinides 52
Al–Cu alloys 87
Amorphous semiconductors 167
Andreev reflection 336, 364
Anisotropy 167, 260, 379, 396
Anomalous viscosity 299
Anomalous vortex mobility 309
Antiferromagnetic structures 61
Artificial superlattices 379
Axisymmetric coherent vortex states 299

Ballistic vortices 344
Band structure 31, 131, 223
Berry phase 358
Boson–fermion model 336
Bulk modulus 229

CaO 243
Capacitance 344, 353, 358, 364
Chaos 103, 326
Charge frustration 358
Charging energy 344, 353
Chequer-board ground states 253
Clusters 173
Cobalt phthalocyanine 136
Continued fractions 209
Copper oxides 370, 374, 379
Correlation function 160
Critical behaviour 266
Critical current 315, 320
Critical point 374
Critical state 273
Crystal fields 238, 243
Current drives 293, 315, 320, 326, 331, 396
Current–voltage characteristics 273, 309, 391
Cyclotron resonance linewidth 209

d–s interaction 173
Densification 131
Depinning 287
Dielectric constant 153
Dimensional crossover 379, 391
Disorder 260, 266, 280, 287, 293, 304, 315, 358
Disordered dielectrics 182
Dissipation 336
Dynamic conductivity 336
Dynamic transport 123
Dynamical phase transition 315

Electrodynamic analogy 304
Electron–hole plasma 73
EPR 238
Epsilon expansion 336
Equation of state 229
ESR 16
Exchange integrals 160

Fe_3TMB clusters 247
Fermi surface 31
Fermion systems 43
Flux dynamics 379
Flux flow 287, 293
Flux pinning 273
Frequency locking 315
Frustration 253, 260, 266, 280, 287, 293, 336, 344, 353

GaAs 217
GaAs/AlAs microcavities 73
$Gd_xY_{1-x}Ba_2Cu_3O_{7-\delta}$ 16
$GdRu_2Ge_2$ 80
$GdRu_2Si_2$ 80
Giant Shapiro steps 331, 358
Ginzburg–Landau 260, 336
Glassy state 260
Granular superconductors 336

Hall conductivity 358, 370
Hall microscopy 253
Hall voltage 293
Helicity modulus 353
High pressure 52, 223
High-pressure spectroscopy 243
High-temperature superconductors 370, 374, 379, 385, 391, 396
Hot-electron transport 217
Hydrodynamic analogy 326
Hysteresis 273, 385

Inductance effects 273
InSn 31
Interlayer coupling 385, 391
Intermetallics 233
Intrinsic Josephson junctions 385

Josephson chain 364

Kosterlitz–Thouless transition 391
$KTa_{1-x}Nb_xO_3$ 182
Kuramoto model 315

Ladder arrays 331
Langevin dynamics 309, 331, 396
Lattice dynamics 87, 233
Laughlin wave function 358
Ligand fields 238
Liquid structure 143
Local compressibility 243
Local structural distortions 238
Longitudinal magnetic field 150
Low-frequency dispersion 123
Luttinger liquid 364

Magnetic anisotropy 80
Magnetic decoration 253
Magnetic interactions 16
Magnetic phase diagram 61
Magnetic properties 247
Maxwell equations 150
MgS 223
MgSe 223
Microwave emission 385
Minerals 229
Molecular theory 191
Monte Carlo simulations 266, 287, 353
Mori formalism 304
Multilayers 92, 379

n–InSb 103
Nanostructures 217
NdZn 61
Neutron inelastic scattering 233
Ni^{2+} 243
Nonlinear conductivity 391
Nonlinear dynamics 315
Nonlinearity 320

Ohmic shunts 336
One-dimensional arrays 315, 331, 344, 385
Optical reflectivity 52
Optical spectra 113
Optical switching 73
Order parameters 92

Persistent current 43
Phase diagram 280, 379
Phenomenology 309
Photons 150
Photovoltaic materials 153
Pinning 293, 304
Plasmon-polaritons 113
Plastic flow 293
Polycarbonates 153
Positron annihilation 31

Quadrupolar interactions 61
Quantum Hall effect 358, 370
Quantum ladder 266
Quantum phase transition 336
Quantum rotor 1
Quantum superconducting glass 353
Quantum tunnelling 344
Quantum vortex 344, 358
Quantum wires 217
Quantum-induced transition 353
Quasiperiodicity 260, 326

Rare earth intermetallics 80
Resonances 191
Rotational tunnelling 1
RSJ dynamics 293, 299, 326, 331, 391, 396

Scanning SQUID microscopy 253
Self-organized criticality 320
Semiconductors 167
Shapiro steps 320, 331
Silica surfaces 123
Sintering 131
Sn 31
Solar cells 153
Specific heat 87
Spinel lattices 160
Square-well fluids 143
Strongly correlated electrons 43
Structural phase transitions 182
Structural properties 143, 223
Structure factor 287, 304
Subharmonic steps 331
Subnanosecond dynamics 73
Sum frequency generation 191
Superconductors 92, 173
Superconductor–insulator transition 336, 364
Superlattices 113
Surface spectroscopy 191

Thermal properties 87
Thin films 136
Three-dimensional arrays 391, 396
Topological quantization 358
Transformer effect 396
Triangular arrays 331
Triangular lattice 396
Turbulence 326
Type-II superconductors 273, 374

Universality 374
Upper critical field 92

Voltage quantization 358
Vortex dynamics 293, 299, 304, 309, 326, 379
Vortex imaging 253
Vortex lattice 287
Vortex liquid 287, 370
Vortex loops 396
Vortex mobility 304

Wire arrays 253, 260
Wire networks 287

XY exponents 374
XY model 280, 374
XY–Ising transition 266

Z2-U(1) symmetry 266
Zr_2Ni 233